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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/931,041	08/17/2001	Ka-lun Lee	1928-0121P-SP	2678

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BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER

LE, DANG D

ART UNIT PAPER NUMBER

2834

DATE MAILED: 02/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/931,041

Applicant(s)

LEE, KA-LUN

Examiner

Dang D Le

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 December 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 12/26/02 have been fully considered but they are not persuasive. The applicant's argument is on the ground that "Wizenez et al. does not use a coil but instead a semiconductor member" and that "there would be no motivation to utilize the location of the Wizenez et al. sensor." It is not found persuasive because although Wizenez et al. does not use a coil for sensing the rotor position or speed, Mohr uses the coil for the same purpose. In addition, in the art of motor and generator, the rotor position and or speed can be monitored by different type of sensors. Moreover, because Wizenez et al. and Mohr are in the same field of endeavor, it would have been obvious to combine the two references. It would also have been obvious to one having ordinary skill in the art at the time the invention was made to locate the coil (12a) of Mohr to a position between the magnet and the armature, since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70.

As a result, the rejection is still deemed proper and made hereinafter.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which

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said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 11 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mohr in view of Wizenez et al.

Regarding claim 1, Mohr shows a permanent magnet direct current motor comprising:

- A permanent magnet stator (1) including at least one permanent magnet (6);
- A rotor (3) including a rotor shaft (2), an armature core (4) mounted on the shaft and having a plurality of poles, an armature winding wound about the poles, and a commutator mounted on the shaft adjacent one end of the armature core and connected to lead wires of the armature winding, the rotor being journaled in bearings and located confronting the stator; and
- A speed sensor (12);
- Wherein the speed sensor is a coil of conductive material (12a).

Mohr does not show the speed sensor being fixed to the surface of the magnet and located in the air gap between the magnet and the armature core.

Wizenez et al. show the speed sensor (3) being fixed to the surface of the pole (3) and located in the air gap between the pole and the armature core (Figure 1) for the purpose of monitoring the speed of the motor.

Since Mohr and Wizenez et al. are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to fix the speed sensor to the surface of the magnet and to locate it in the air gap between the magnet and the armature core as taught by Wizenez et al. for the purpose discussed above.

Regarding claim 2, it is noted that Wizenez et al. also show the conductive material being a thin deposit of conductive ink, especially a conductive epoxy.

Regarding claim 11, it is noted that Wizenez et al. also show coil terminals of the speed sensor located on an axial end surface of the magnet.

Regarding claim 14, it is noted that Wizenez et al. also show the conductive ink being a silver epoxy.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mohr in view of Wizenez et al. as applied to claim 1 above, and further in view of Lau.

Regarding claim 3, the motor of Mohr modified by Wizenez et al. includes all of the limitations of the claimed invention except for the coil extending axially for substantially the axial length of the magnet.

Lau shows the coil (11) extending axially for substantially the axial length of the magnet for the purpose of monitoring the speed of the motor.

Since Mohr, Wizenez et al. and Lau are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to extend the coil axially for substantially the axial length of the magnet as taught by Lau for the purpose discussed above.

5. Claims 4-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mohr in view of Wizenez et al. as applied to claim 1 above, and further in view of Jones et al.

Regarding claim 4, the motor of Mohr modified by Wizenez et al. includes all of the limitations of the claimed invention except for the coil being a single turn coil.

Jones et al. show the coil being a single turn coil for the purpose of making a sensor.

Since Mohr, Wizenez et al. and Jones et al. are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to make the coil as a single turn coil as taught by Jones et al. for the purpose discussed above.

Regarding claim 5, it is noted that Jones et al. also show the coil being a single turn coil in the form of a long narrow "U" (Figure 3b).

Regarding claim 6, it is noted that Wizenez et al. also show the coil extending axially at substantially the same angle as the poles of the armature core.

Regarding claim 7, it is noted that Jones et al. also show the coil having a lateral gap between the arms of the "U".

Regarding claim 8, it is noted that Jones et al. also show the speed sensor further comprising a second single turn coil connected across the terminals of the first coil and located adjacent thereto but circumferentially spaced therefrom (Figure 3a).

Regarding claim 9, it is noted that Jones et al. also show the two coils connected in series and separated circumferentially by a distance equivalent to a whole number multiple of the distance between the poles of the armature core.

Regarding claim 10, it is noted that Jones et al. also show the first and second coils being substantially U shaped and have a common leg forming a long narrow W-shaped pattern.

6. Claims 12 and 13 are is rejected under 35 U.S.C. 103(a) as being unpatentable over Mohr in view of Wizenez et al. as applied to claim 1 above, and further in view of Tajima et al.

Regarding claim 12, the motor of Mohr modified by Wizenez et al. includes all of the limitations of the claimed invention except for the motor having a deep drawn cup like housing with an open end closed by an end cap and the coil terminals electrically engage with spring biased terminals fixed to the end cap

Tajima et al. show the motor having a deep drawn cup like housing (Figures 1A-1B) with an open end closed by an end cap (2) and the coil terminals fixed to the end cap for the purpose of making a small motor.

Since Mohr, Wizenez et al. and Tajima et al. are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to make the motor with a deep drawn cup like housing with an open end closed by an end cap and the coil terminals electrically engaging with spring biased terminals fixed to the end cap as taught by Tajima et al. for the purpose discussed above.

Regarding claim 13, it is noted that Tajima et al. also show the spring-biased terminals being resiliently deformable fingers extending from the motor end cap.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Information on How to Contact USPTO

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dang D Le whose telephone number is (703) 305-0156. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

DDL
February 6, 2003

